

II. REMARKS

1. Claims 1 through 20 remain in the application.

2. Applicants respectfully submit that claims 1-3, 5-7, 11, and 16 are patentable over Thornton (US 5,847,336).

Thornton fails to disclose that an illumination means comprise light sources that are semiconductor light emitting devices made of layered foil structures, as recited by claim 1. Thornton also fails to disclose providing light sources that are semiconductor light emitting devices made of layered foil structures, as recited by claim 16.

Applicants respectfully submit that it would not be obvious to substitute OLED's for the conventional LED's of Thornton.

Thornton illustrates a conventional technical solution for key illumination by using only separate light sources (LED's) for each individual key. Thornton not only fails to even implicitly disclose a layered foil structure, but appears to teach to the contrary by disclosing the use of individual LED's. There is nothing in Thornton that would support the replacement of LED's with a layered foil structure. The teachings of Thornton are based on providing an individual LED for a key or keypad area.

Applicants submit that such a substitution is based on impermissible hindsight because it requires knowledge beyond the level of ordinary skill in the art at the time the claimed invention was made and appears to include knowledge gleaned only from Applicants' disclosure.

Applicants wish to clarify that layered foil structures may encompass devices other than OLED's and that OLED's are but a specific embodiment of a layered foil structure. Both layered foil structures and OLED's are disclosed when describing the present invention and embodiments of the present invention.

The present invention refers mainly to an implementation solution utilizing a key illumination principle that is used for improving usability while providing some additional functionality to be used with non-standard applications, such as games. The essential elements in the present invention are in claim 1:

"1. A keypad for... light sources that are semiconductor light-emitting devices made of layered foil structures...,".

The benefits of the present invention include a cost efficient technical solution for keypad functionality that supports mass manufacturing, low power consumption, thin phone structures and easy configuration for key illumination. Moreover, the illumination is not necessarily tied to keys, individual keys or a display. Additional advantages can be seen in game and animation sequence applications.

It is apparent that the proposed solutions of Thornton are based on mid 1990's mobile phone illumination technology that typically consisted of 15-20 LED's for a keypad area illumination, each LED taking typically approximately 20 mA of current. The implementation described in Thornton may not satisfy, for example, very strict low power consumption requirements which are met by the present invention. The ineluctable restrictions of Thornton may result in increased cost, higher power consumption, a larger component count, a

thicker solution, and longer manufacture time. This is especially emphasized in solutions requiring an LED for each key or solutions requiring individual switching. Moreover, the illumination is tied to keys or to a display.

None of the other prior art references solve these problems associated with Thornton, and all appear to provide teachings similar to Thornton.

At least for these reasons, Applicants respectfully submit that claims 1 and 16 are patentable over Thornton.

Claims 2, 3, 5-7, and 11 depend from claim 1 and therefore are also patentable over Thornton.

In particular, claim 2 recites that the light sources are organic light-emitting diodes. None of the prior art references even implicitly disclose such diodes.

3. Claims 8 and 9 are patentable over the combination of Thornton and JP 11-126047.

JP 11-126047 fails to disclose or suggest light sources that are semiconductor light emitting devices made of layered foil structures, as recited by the independent claims of the present invention.

4. Claim 10 is patentable over the combination of Thornton and JP 11-126047, further in view of JP 11-327509.

Like the other cited references, JP 11-327509 fails to disclose or suggest light sources that are semiconductor light emitting devices made of layered foil structures.

5. Claims 12-15 are patentable over the combination of Thornton and JP 08-148056.

JP 08-148056 fails to disclose or suggest light sources that are semiconductor light emitting devices made of layered foil structures.

6. Claim 17 is patentable over the combination of Thornton and JP 08-265413 because neither reference discloses or suggests light sources that are semiconductor light emitting devices made of layered foil structures.

7. Claim 18 is patentable over the combination of Thornton and JP 06-274261 because neither reference discloses or suggests light sources that are semiconductor light emitting devices made of layered foil structures.

8. Claims 19-20 are patentable over the combination of Thornton and JP 11-88948 because, like the other cited combinations of references, this combination fails to disclose or suggest light sources that are semiconductor light emitting devices made of layered foil structures, as recited by the independent claims of the present invention.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

Joseph V. Gamberdell, Jr.
Joseph V. Gamberdell, Jr.
Reg. No. 44,695

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Date

Perman & Green, LLP
425 Post Road
Fairfield, CT 06824
(203) 259-1800
Customer No.: 2512

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